Upper Yangtze River Scientific Data Center

**SMOS L3 Vegetation Optical Depth (VOD) Data Set in Southwest China (2010-2022)**

1、Description

This dataset is obtained through the inversion the TB acquired by Microwave Imaging Radiometer using Aperture Synthesis (MIRAS) on board the European Space Agency (ESA) SMOS mission at L band (1.4 GHz) at H and V polarizations, using the τ-ω model. Thresholds and 2-sigma criteria are applied on the TB to filter out invalid data. A RFI flag, based on a modelling approach of these interferences, is applied to mask the contaminated pixels. Due to the coarse resolution of the SMOS data (between 25 and 60 km), soil and vegetation are not uniform inside a pixel. Each pixel TB is the sum of the emission of each vegetation and soil type class weighted by its intra-pixel cover fraction. The data has a spatial resolution of 25 - km and a temporal resolution of 1 day.

2、Keywords

Theme：Terrestrial Surface Remote Sensing,Vegetation optical depth (VOD)  
Discipline：Terrestrial Surface  
Places：Southwest China  
Time：2010-2022

3、Data details

1.Scale：None

2.Projection：

3.Filesize：100.0MB

4.Data format：None

4、Space scope

|  |  |  |
| --- | --- | --- |
| - | north：34.5 | - |
| west：97.0 | - | east：112.5 |
| - | south：20.5 | - |

5、Time frame:2010-01-16 16:00:00+00:00--2022-08-31 16:00:00+00:00

6、Reference method

References to data:

BITAR Al Ahmad . SMOS L3 Vegetation Optical Depth (VOD) Data Set in Southwest China (2010-2022). Upper Yangtze River Scientific Data Center, doi:https://doi.org/10.5194/essd-9-293-2017, 20172022

References to articles:

Al Bitar, A.; Mialon, A.; Kerr, Y.H.; Cabot, F.; Richaume, P.; Jacquette, E.; Quesney, A.; Mahmoodi, A.; Tarot, S.; Parrens, M.; et al. The global SMOS Level 3 daily soil moisture and brightness temperature maps. Earth Syst. Sci. Data 2017, 9, 293–315.

7、Supporting project information

8、Data resource provider

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